The USDA Soil Conservation Service conducted additional field work in the planning area in 1990. The new data will provide more detailed soil information for the Kashwitna Unit. Maps of this information will be available in 1991.

Fish and Wildlife Habitat

DESIGNATIONS AND EXISTING USE

Fish and wildlife habitat is a primary designation in subunits a and b, and a secondary use in Subunit c. In the last five years, the Kashwitna Unit has become increasingly important for sport hunting for moose. It is adjacent to the Willow Mountain Critical Habitat Area which supports a high-density moose population, there is recently developed access, and the area is close to urban population centers. Increasing use of off-road vehicles adds to the importance of this area. Since 1983 approximately 100 hunters reported spending 520 user-days harvesting an average of 35 moose per year in the Little Willow Creek harvest reporting unit. However, these estimates include lands outside the Kashwitna Unit.

RESOURCES AND POTENTIAL

Moose are widely distributed throughout the Kashwitna Unit, and, because of their great recreational, aesthetic, and subsistence values, are recognized as one of the most economically important species in the planning area. Moose numbers throughout the area vary greatly depending on the season, climatic conditions, and local factors, such as the availability of suitable cover habitat, the quantity and quality of preferred browse species (willow, birch, aspen, and cottonwood), and the diversity and interspersion of important habitat types. In winter, an estimated 250-350 moose inhabit the planning area. The timing and magnitude of winter moose utilization of the Kashwitna Unit probably depends on snow depths in the surrounding area, especially the alpine and subalpine habitats on Willow Mountain.

Most of the planning area is intensively used by moose in the winter. Many moose from the Willow Mountain area retreat to the protected forest cover types in the Kashwitna Unit. Much of the area between Little Willow Creek and the Kashwitna River (Subunit a) is an important concentration area in the fall prior to rut, and in the spring. The riparian habitats along Little Willow Creek are heavily used in the winter and are migration corridors during spring and fall. There is important calving habitat on the margins of wetlands and riparian areas.

The Department of Fish and Game believes this area has high potential for moose habitat enhancement if managed accordingly. Apparently, in the late 1920s, partly as a result of widespread fire, this was some of the most productive moose habitat in the entire Susitna River valley. Movement data from radio-collared moose indicate that in addition to moose coming from Willow Mountain, some moose migrate to this area from seasonal ranges on the west side of the Susitna River. This behavior is thought to represent past movement patterns of a greater segment of the population than at present and reflects a response to the availability of higher quality habitat in previous years.

Black bears are found throughout the planning area but are more closely associated with forests. They favor open to partially-open forests with an understory of fruit-bearing shrubs and herbs, lush grasses, and succulent forbs. Black bears tend to avoid expansive, open areas. The geographical distribution of bears is primarily determined by the availability of preferred food resources. In the spring, upon den emergence, black bears forage on new green vegetation or roots. During moose calving season, bears eat newborn moose or moose

carrion. Bears often forage near salmon streams during the spawning season. In late summer and fall, bears tend to use shrub cover types with berry patches. Important black bear habitat includes riparian habitat along most watercourses, open and semi-open forest types, and pure shrub cover types. Estimated density for black bears in this area is 1 bear/per 3 to 5 square miles (Grauvogel 1989).

Brown (grizzly) bears occur throughout the planning area but are more commonly found at higher elevations and in more remote locations than black bears. Densities are estimated to be 1 bear/20-40 square miles (Grauvogel 1989). Alpine and subalpine habitats are important for summer and fall foraging and denning. In the spring brown bears prefer sedge meadows, grass flats, and south-facing slopes. Their foraging patterns and general behavior are similar to black bears.

Red squirrels occupy mature spruce and mixed forests throughout the Kashwitna Unit. White and black spruce seeds are their most important foods. Mature hardwood forests can provide marginal habitat during periods of emigration or population expansion but generally do not support permanent overwintering populations. ***Northern flying squirrels*** are secretive but usually occur in the same areas as red squirrels.

Hoary marmots can usually be found in low numbers above treeline in the alpine-subalpine habitats of the planning area. Rocky areas are used for shelter and open alpine habitats for foraging.

Arctic ground squirrels are commonly found throughout the alpine-subalpine shrublands, and meadow cover types throughout the planning area where vegetation heights are less than 20 cm (8 inches) so that their vision is not obscured.

Beaver are common in most streams and lakes bordered by hardwood or mixed forest types and low and tall shrub communities in the Kashwitna Unit. Typical beaver habitat has a dependable water supply with minimal seasonal fluctuations in stream flow and a ready supply of willow, aspen, cottonwood, alder, or birch. Present population levels are moderate to high. Beaver colonies accessible by any form of road access probably will be intensively trapped.

Muskrat occur in lower elevation wetland communities throughout the area. Muskrat population levels are low throughout the Kashwitna Unit.

Marten are common residents of the coniferous forest types of the planning area. Current population status is unknown.

Red fox are widespread in the planning area. Densities are low to moderate.

Mink are common along most streams within the Kashwitna Unit. Their population status is unknown, but they are abundant enough to attract moderate trapping pressure.

River otters occur along lowland water courses in moderate numbers. They occur in lower densities in the subalpine portions of the Kashwitna area.

Lynx abundance appears closely associated with the availability of suitable forest and shrub habitat, and the cyclic availability of snowshoe hares, a major prey species. Some lynx inhabit the planning area, but they are uncommon.

Coyotes are commonly found throughout the planning area in most habitat types.

Ermine and ***least weasels*** are distributed throughout the forested and alpine habitats of the planning area and are considered common. Very little is known of their status or ecology in this region.

Wolves have only been rarely documented in the Kashwitna area and would likely involve only single animals.

Wolverine are generally restricted to the foothills of the Talkeetna Mountains. They may only rarely occur in the upper elevation areas in the Kashwitna area. Even where suitable habitat exists, the low density typical of this species would limit their occurrence in the planning area.

Small mammals. Distribution and abundance of small mammals in the Kashwitna area is poorly documented. Appendix C lists those mammal species likely to be found in the Kashwitna Unit based on the availability of suitable habitat and documented range distribution maps.

Snowshoe hares are widely distributed throughout the area but are not abundant. Hares are found in both forested and shrub habitats but prefer early successional stages. Winter habitats containing cover with sufficient browse such as dense black spruce and willow-alder thickets are important during this critical time period. Hares will feed on spruce, willow, alder, and birch. In southcentral Alaska, hare populations follow approximately a 10-year cycle of abundance and scarcity. Because of large population fluctuations, marginal habitat types are more important during periods of high population numbers.

Porcupines are found throughout the boreal forest types of the Kashwitna Unit area.

Birds. Information on the distribution, abundance, and species composition of small birds, upland game birds, and raptors is lacking for the Kashwitna Unit. Birds are probably typical of those in most other parts of the Susitna Basin and Matanuska Valley. See Kessel et al., 1982 and Bronson 1988 for more information.

Fish. The most important anadromous and resident fish in the Kashwitna Unit include chinook, coho, sockeye, pink, and chum salmon; rainbow trout, Dolly Varden char, arctic grayling, whitefish, and burbot.

Little Willow Creek and its tributaries, Iron Creek and its tributaries, 196 Mile Creek (Gray's Creek), and an unnamed tributary of Willow Creek support chinook and coho salmon rearing habitat and Little Willow Creek supports important spawning habitat for chinook, coho, and pink salmon.

Rainbow trout, Arctic grayling, Dolly Varden char, and whitefish occur in Little Willow Creek. Any of these species are likely to occur in the other anadromous streams in the Kashwitna Unit. Because of the remoteness and size of these streams, data describing angler effort and harvest is only available for Little Willow Creek.

Little Willow Creek is one of the more rapidly growing sport fisheries along the Parks Highway corridor. In 1983 only 2,791 angler-days of sport fishing were estimated for Little Willow Creek. This had increased to 10,768 angler-days by 1988. This effort resulted in a harvest of 871 chinook salmon, 1,237 coho salmon, 55 sockeyes, 491 pink salmon, and 546 chum salmon. Most salmon fishing occurs below the Parks Highway, outside the Kashwitna Unit. Above the Parks Highway and in the Kashwitna Unit, resident populations of rainbow trout and grayling and to a lesser extent, whitefish, are caught in significant numbers. These upper reaches of the stream offer a more remote fishing experience.